Dipobrato Sarbapalli

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EDUCATION

University of Illinois at Urbana Champaign (UIUC) *Urbana-Champaign, IL*
Doctor of Philosophy in Materials Science and Engineering, GPA: 3.90/4.00 *Dec 2022 (expected)*
Focus: Use of graphene in understanding and advancing alkali-ion and redox flow batteries

University of Illinois at Urbana Champaign (UIUC) *Urbana-Champaign, IL*
Master of Science in Civil Engineering, GPA: 4.00/4.00 *May 2018 (expected)*
Focus: Nucleation seeding in the synthesis of inorganic aluminosilicate geopolymer binders

National Institute of Technology (NITT) *Tiruchirapplli, India*
Bachelor of Technology in Civil Engineering, GPA: 8.86/10.00 *May 2015 (expected)*
Placed in First Class (with distinction)

HONORS

- Awarded with the Best Poster Award during the SEAC Poster session, PITTCON 2020, Chicago
- Awarded the DAAD-RISE Fellowship by the German Government to intern with BASF at Ludwigshafen, Germany (50 students selected across United States and Canada)
- Rated as Outstanding Teaching Assistant (Top 10% in terms of teaching effectiveness across campus) by students for CEE 300 − Behavior of Materials over Spring 2018
- Rated as Outstanding and Excellent Teaching Assistant for CEE 401 − Concrete Materials over Fall 2016 and Fall 2017 respectively

RESEARCH EXPERIENCE

Department of Chemistry, University of Illinois *Urbana, IL*
Graduate Research Assistant || Adviser: Dr. Joaquín Rodríguez-López *Fall 2018 - Present*

- Studying alkali-ion intercalation in graphene with or without surface modifiers
- Characterizing electrode-electrolyte interfacial processes affecting molecular reactivity in redox-flow batteries
- Using MATLAB and Python to develop scripts for rapid analysis of electrochemical data

Advanced Materials and Systems Research, BASF SE *Ludwigshafen, Germany*
Intern and Deutscher Akademischer Austauschdienst (DAAD) Fellow *May - August 2017*

- Used atomic force microscopy to measure adhesion of paint and adhesive polymer particles to inorganic fillers like calcium carbonate, mica, silica and iron oxide
- Applied numerical models to treat experimental data on Mathematica to quantify adhesion

Department of Civil and Environmental Engineering, University of Illinois *Urbana, IL*
Graduate Research Assistant || Adviser: Dr. Paramita Mondal *Fall 2015 - Summer 2018*

- Improved performance in green aluminosilicate based binders by adding external seeding agents
- Characterized the dissolution of sodium aluminosilicates in salicylic acid-methanol

TEACHING EXPERIENCE

Department of Civil and Environmental Engineering, University of Illinois *Urbana, IL*
Graduate Teaching Assistant (CEE 300 – Behavior of Materials) *Spring 2016 and Spring 2018*

- Supervised 60 students weekly with experiments on cast iron, steel and polymers
- Worked 10 hours per week on measuring measuring tensile, compressive, flexural, toughness, impact and creep properties along with effects of heat treatment processes on these materials

Department of Civil and Environmental Engineering, University of Illinois *Urbana, IL*
Graduate Teaching Assistant (CEE 401 – Concrete Materials) *Fall 2016 and Fall 2017*

- Substituted for course instructor; took lecture classes for 18 PhD, MS and undergraduate students
- Supervised two lab sections weekly, graded lab reports and HW assignments

PUBLICATIONS

1. Hui, J., Abdulrahiman, N., **Sarbapalli, D.**, Xia, C., Qu, Z., Mendoza-Cortes, J. L. and Rodríguez-López, J. *Chemical Science*, 2020. (*In review*)
2. Watkins, T.*, **Sarbapalli, D.***, Counihan, M.J.*, Danis, A.S., Zavadil, K.R., and Rodríguez-López, J. *Journal of Materials Chemistry A*, 2020.
3. Gossage, Z.T., Hui, J., **Sarbapalli, D.** and Rodríguez-López, J. *Analyst*, 2020.
4. Abdulrahiman, N., **Sarbapalli, D.**, Hui, J., Rodríguez-López, J. and Mendoza-Cortes, J. L. *ACS Applied Materials & Interfaces*, 2020.
5. Hui, J., Gossage T.Z., **Sarbapalli, D.**, Hernandez-Burgos, K., and Rodríguez-López, J. *Analytical Chemistry*, 2018.
6. **Sarbapalli, D.**, and Mondal, P. in *Ceramic Engineering and Science Proceedings*, 2017
7. **Sarbapalli, D.**, Dhabalia, Y., Sarkar, K., and Bhattacharjee, B. *European Journal of Environmental and Civil Engineering*, 2016.

*Denotes equal contribution

Google Scholar: https://bit.ly/3c9oQqC

EXTRA-CURRICULAR ACTIVITIES

Joaquín Rodríguez-López (JRL) Research Group *Fall 2018 - current*

- Instructor for JRL Group Electrochemical Bootcamp - a 3-day intensive set of experiments and demos aimed at introducing newcomers to advanced electrochemistry
- Assisted in experimental demonstrations for hispanic students within the Urbana Middle School system as part of "Cena y Ciencas" (Supper and Science) program
- Displayed simple experiments on battery science during Beckman Open House

American Concrete Institute – Student Chapter (ACI-UIUC) *Fall 2015 - Summer 2018*

- Conducted OriginPro workshops, mentored undergraduates for student competition in ACI Convention, and organized outreach events in Engineering Open House

Third Dimension Aeromodelling Club – NITT *2012 - 2015*

- Vice President in senior year; Responsible for leading, organizing and implementing club activities such as RC aircraft fabrication for 40 members